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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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EXAMINER	
YENKE, BRIAN P	
ART UNIT	**PAPER NUMBER**
2614	18

DATE MAILED: 06/02/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 09/555,488	Applicant(s) YU ET AL.	
	Examiner BRIAN P. YENKE	Art Unit 2614	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *30 April 2004*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-15,18-22 and 24* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☒ Claim(s) *1-15* is/are allowed.

6)☒ Claim(s) *18-22 and 24* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 30 April 2004 has been entered.

2. Applicant's arguments, see Amendment, filed 30 April 2004, with respect to claims 1-15 have been fully considered and are persuasive. The rejection of claims 1-15 has been withdrawn.

Applicant's arguments filed 30 April 2004, with respect to claims 18-22 and 24 have been fully considered but they are not persuasive.

Claim Rejections - 35 USC § 102

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claim 24 is rejected under 35 U.S.C. 102(b) as being anticipated by **Faroudja, US 5,754,248**.

In considering claim 24,

1) the claimed adaptively filtering...is met by Vertical LPF 20 (Fig 5) (col 8, line 4-10)

2) the claimed converting said filtered signal to a lower spatial resolution...is met by downconverter 22 (Fig 5) (col 8, line 10-18), where for example, a now filtered 1500-line signal is downconverted to either a 525 or 625 line signal.

3) the claimed MPEG encoding...is met by compressor 24 (Fig 5) (col 8, line 18-26, col 6, line 30-34)

4) the claimed conveying said encoded signal to an output channel is met where the output of encoder (LPF, downconverter and compressor) provides the output video data which is processed by the decoder (Fig 8), wherein the vertical LPF 20 is utilized in order to avoid Nyquist undersampling artifacts in the resultant video signal, thus being a function of the image signal parameters prior to filtering.

Regarding the limitation *adaptive filtering being a function of the image signal parameters of the detected video signal prior to filtering* is met by Faroudja which discloses the receiving of HDTV/ATV signals which can vary in formats (col 5, line 36-46), thus the LPF 20 is adaptive to various formats, where the filter is adaptive to the received signal prior to filtering.

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the

invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

4a. Claim 18 is rejected under 35 U.S.C. 103(a) as being unpatentable over **Faroudja, US 5,754,248** in view of **Scorse et al., US 5,128,776.**

In considering claim 18,

1) the claimed adaptively filtering... is met by Vertical LPF 20 (Fig 5) (col 8, line 4-10)

3) the claimed MPEG encoding... is met by compressor 24 (Fig 5) (col 8, line 18-26, col 6, line 30-34)

4) the claimed conveying said encoded signal to an output channel is met where the output of encoder (LPF, downconverter and compressor) provides the output video data, which is processed by the decoder (Fig 8)

However Faroudja does not specifically disclose the claimed converting said filtered signal to a lower resolution signal having a resolution of 1280 x 1080 samples per frame.

Faroudja discloses a downconverter 22 (Fig 5) (col 8, line 10-18) which may down convert the received signal to 525 or 626 lines or other formats depending on the source and the display being used (col 2, line 37-42).

The conventional MPEG-2 standard, utilizes the MP@HL standard which may have as many as 1,152 active lines per image frame and 1,920 pixels per line and the MP@ML standard which defines a maximum picture size of 720 pixels per line and 567 lines per frame.

The changing/adjusting of a resolution of a video signal is notoriously well-known in the art, where the resolution of a video signal can be reduced by reducing the number of vertical lines and/or reducing the number of active pixels in a horizontal line. The arbitrary selection of a desired number of pixels, is as shown below, simply a design choice, based on transmission means/requirements and display means/requirements, where the resolution of a signal, can take the form of an infinite number of possibilities, since the number of pixels utilized in an image can vary accordingly.

It is also noted by the examiner that the applicant's own disclosure (page 1, line 35) discloses that it is well known to horizontally decimate a video signal of 720 pixels per line to 544 pixels per line to further reduce bandwidth requirements.

The examiner relies on Scorse US 5,128,776 which discloses a system which permits the operator of a video image system to selectively transmit desired portions of a video image at an operator selected resolution, operator selected compression level and operator selected order of transmission of each of the portions.

Scorse discloses a control/processing unit 16, which processes the video data, stored in storage 14 (Fig 1), where processing unit 16 reduces the resolution of the selected signal if desired by the operator (col 4, line 34-64). Where the reduction of the resolution of a video signal reduces the transmission time and thus reduces the bandwidth. The reduction in pixels can be performed in a predetermined manner, where the reduction can be performed by transmitting every other pixel, averaging a

group (consecutive or non-consecutive) of pixels (col 6, line 39-60), where the number of active pixels can be reduced from the original resolution/signal.

Therefore, it would be obvious to one of ordinary skill in that art at the time of the invention to modify Faroudja's system which can have as many as 1920 active pixels per line, with Scorse, in order to reduce the number of active pixels from the maximum of 1920 pixels, which would reduce transmission time/bandwidth of the transmitted signal, and maintain picture granularity.

4b. Claims 19-22 are rejected under 35 U.S.C. 103(a) as being unpatentable over **Lim, US 5,444,491** in view of **Scorse et al., US 5,128,776.**

In considering claims 19-22

1) the claimed decoding said signal to produce a decoded signal... is met by receiver 12 (Fig 1) where channel decoder 34 outputs image information to image decoder 36 and transmission format identification to decoder 38 (col 6, line 1-15)

2) the claimed determining the image resolution... is met by image decoder 36 (Fig 1)

4) the claimed conveying said converted signal to an output device is met by format transformation means 40 which supplies the transformed image to display 42 (col 6, line 5-10)

However, Lim does not specifically disclose a 1280x1080 format. Lim discloses a system which transmits/receives various transmission format (Table 1 and 2). Lim also discloses that the number of active lines of pixels in the transmission formats can vary from those listed in the Tables (col 8, line 30-34).

Lim discloses that various picture formats can be utilized by conserving the Number of pixels per second keeping the bandwidth within the 6MHz channel for HDTV. Lim discloses the use of HDTV (MPEG-2)but does not disclose the MPEG specification which details the maximum number of lines/pixels per line that can be used.

The changing/adjusting of a resolution of a video signal is notoriously well-known in the art, where the resolution of a video signal can be reduced by reducing the number of vertical lines and/or reducing the number of active pixels in a horizontal line. The arbitrary selection of a desired number of pixels, is as shown below, simply a design choice, based on transmission means/requirements and display means/requirements, where the resolution of a signal, can take the form of an infinite number of possibilities, since the number of pixels utilized in an image can vary accordingly.

It is also noted by the examiner that the applicant's own disclosure (page 1, line 35) discloses that it is well known to horizontally decimate a video signal of 720 pixels per line to 544 pixels per line to further reduce bandwidth requirements.

The examiner relies on Scorse US 5,128,776 which discloses a system which permits the operator of a video image system to selectively transmit desired portions of a video image at an operator selected resolution, operator selected compression level and operator selected order of transmission of each of the portions. Scorse discloses a control/processing unit 16 which processes the video data stored in storage 14 (Fig 1), where processing unit 16 reduces the resolution of the selected signal if desired by the

operator (col 4, line 34-64). Where the reduction of the resolution of a video signal reduces the transmission time and thus reduces the bandwidth. The reduction in pixels can be performed in a predetermined manner, where the reduction can be performed by transmitting every other pixel, averaging a group (consecutive or non-consecutive) of pixels (col 6, line 39-60), where the number of active pixels can be reduced from the original resolution/signal.

Therefore, it would be obvious to one of ordinary skill in that art at the time of the invention to modify Lim's system which can have as many as 1920 active pixels per line, with Scorse, in order to reduce the number of active pixels from the maximum of 1920 pixels, which would reduce transmission time/bandwidth of the transmitted signal, and maintain picture granularity.

Applicant's Arguments

a) Regarding claim 24, the applicant states the 525/625 line switch in Faroudja is resultant of the signal after filtering. The applicant states that Faroudja is not a function of image signal parameters of the detected video signal prior to filtering.

b) Regarding claim 18, the applicant states (incorporated from applicant's specification". "Simply reducing the horizontal frame resolution from 1920 to 1280 is not sufficient to allow the simultaneous transmission of two HD programs on a single satellite transponder. The filtering provided by processor 22 advantageously permits such dual HD transmission on a single channel. Applicant also states that neither Faroudja nor Scorse disclose the applicant's claimed 1280 x 1080 resolution.

c) Regarding claims 19-22, the applicant states there is no reason to modify Lim with Scorse, since Lim already describes different resolutions to provide varying transmission rates that fit in a broadcast channel. Applicant states that neither Lim nor Scorse disclose the hybrid 1280 x 1080 format.

Examiner's Response

a) The examiner disagrees as stated above in the rejection (see claim 24).

b) Regarding the claimed resolution format, the examiner disagrees as stated above in the rejection. Although, Faroudja did disclose down converting a signal to either 525 or 625 lines, the examiner relied on Scorse to show it was conventional to transmit signals at an operator selected resolution, an operator selected compression level and an operator selected order of transmission. Regarding the applicant's invention and the sufficiency to allow simultaneous transmission of two HD programs on a single transponder. In response to applicant's argument that the references fail to show certain features of applicant's invention, it is noted that the features upon which applicant relies (i.e., invention and the sufficiency to allow simultaneous transmission of two HD programs on a single transponder) are not recited in the rejected claim(s). Although the claims are interpreted in light of the specification, limitations from the specification are not read into the claims. See *In re Van Geuns*, 988 F.2d 1181, 26 USPQ2d 1057 (Fed. Cir. 1993).

c) Regarding the combination of Lim with Scorse, the examiner disagrees with the applicant in respect to there is no motivation to combine. The examiner relied on Scorse show it was conventional to transmit signals at an operator selected resolution,

an operator selected compression level and an operator selected order of transmission. Although, Lim discloses various formats, Lim did not disclose the adjustment or variance at an operator's selection of the resolution, hence the inclusion of the Scorse reference. In response to the claimed hybrid format, the examiner agrees that neither the Lim nor Scorse reference explicitly disclose the hybrid 1280 x 1080 format, however the examiner's position is since the MPEG standard can have upto 1920 pixels per line and upto 1280 lines, the selection of a resolution which falls within this standard is not patentable, obviously since there are an infinite number of variations which can fall with the MPEG standard.

Allowable Subject Matter

5. Claims 1-15 are allowed.

Conclusion

6. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Brian Yenke whose telephone number is (703) 305-9871. The examiner work schedule is Monday-Thursday, 0730-1830 hrs.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's Supervisor, John W. Miller, can be reached at (703)305-4795.

Any response to this action should be mailed to:

Commissioner of Patents and Trademarks

Washington, D.C. 20231

or faxed to:

(703) 872-9314

Hand-delivered responses should be brought to Crystal Park II, 2121 Crystal Drive, Arlington, VA, Sixth Floor (Receptionist). Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Technology Center 2600 Customer Service Office whose telephone number is (703)305-HELP.

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BRIAN P. YENKE
Primary Examiner
Art Unit 2614

B.P.Y
30 May 2004